Improving Breastfeeding Outcomes through evidence based Perinatal, Labor and Delivery Practices and Continued Home Support in Ghana : A training manual for nurses, midwives and community health workers targeted at Steps 4, 5 and 10 of the Ten (10) steps to successful breastfeeding as listed in the Baby-Friendly Health Initiative.

By

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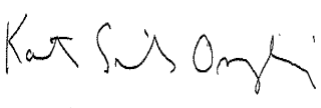

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CORE COMPETENCIES

FOUNDATION COMPETENCIES

- Demonstrate effective written and oral health communication skills appropriately adapted to professional and lay audiences with varying knowledge and skills in interpreting health information.
- Apply evidence-based concepts in public health decision-making.
- Identify characteristics of a system.
- Respond to identified public health needs within their appropriate contextual setting.

MATERNAL AND CHILD HEALTH COMPETENCIES

- Substantive knowledge: Critically analyze determinants of health among infants, children, adolescents, women, mothers, and families, including biological, behavioral, socioeconomic, demographic, cultural, and health care systems influences across the life course.
- Leadership: Lead the development and implementation of MCFH research, policy, and practice across levels of the socio-ecological framework by incorporating family-centered, community-based, culturally competent, and interdisciplinary/inter-professional concepts.
- Practice: Understand and apply implementation, monitoring, quality improvement, and evaluation strategies to improve MCFH programs in the U.S. and globally.

OUTLINE OF TRAINING MANUAL

- Introduction
- Problem Statement
- Main Objectives
- Target Audience
- Training Material
- Assessment
- Evaluation and Feedback
- References
- Appendix

INTRODUCTION

Establishing the importance of breastfeeding

Exclusive breastfeeding is the optimal source of nutrition in the first six months of an infant's life, ideally initiated within the first hour of life, with the addition of safe and adequate complementary feeds for up to two years and beyond[1–4]. There are numerous benefits of breastfeeding for the mother-baby dyad. For the baby, breastfeeding is known to provide adequate nutrition and immunity against respiratory and gastrointestinal infections, as well as other potentially life threatening diseases[2,4–6]. It facilitates timely achievement of developmental milestones and long-term intellectual growth[4,7]. Breastfeeding protects the child against obesity and other non-communicable diseases later in life[4,8] For the mother, aside from the contraceptive benefits of lactational amenorrhea she gains through exclusive breastfeeding, it promotes bonding with her infant and reduces the risks of breast and ovarian cancers, and a life-time reduction of cardiovascular disease[9]. Overall, breastfeeding is the one primary prevention intervention that has the largest impact on the reduction of child mortality rates[10].

However, despite these well acknowledged benefits of breastmilk, breastfeeding rates remain sub-optimal in both developing and developed countries. Globally, only 38% of infants, 0-6 months are exclusive breastfed[4,11]. Recent analyses have determined that suboptimal feeding practices such as pre-lacteal feeding and non-exclusive breastfeeding accounts for 11.6% of the mortality In children[4].

The Baby-Friendly Hospital Initiative (BFHI)

In 1991, as part of the numerous efforts by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) to promote and support breastfeeding, the Baby-Friendly Hospital Initiative was launched and has since been adopted by several countries worldwide[1,11,12]. The initiatives' well documented *Ten Steps to Successful Breastfeeding (the Ten Steps)* focuses on providing timely and appropriate care to mothers (prenatally through to the postpartum period) and newborns to better support breastfeeding[1,3,4] Facilities that documented their full adherence to the *Ten Steps*, as well as their compliance with the International Code of Marketing of Breast-milk Substitutes (WHO Code) and relevant World

Health Assembly (WHA) resolution, could be designated as 'Baby-Friendly'[1,3,13]. The Ten Steps are listed in **Table 1** below.

Table 1. Ten Steps to Successful Breastfeeding[1]

Ten Steps to Successful Breastfeeding (revised 2018)
Critical Management Procedures 1) a. Comply fully with the International Code of Marketing of Breast-milk substitutes and relevant World Health Assembly resolutions b. Have a written infant feeding policy that is routinely communicated to staff and parents. c. Establish ongoing monitoring and data-management systems. 2) Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding. **Key Clinical Practices** 3) Discuss the importance and management of breastfeeding with pregnant women and their families 4) Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth. 5) Support mothers to initiate and maintain breastfeeding and manage common difficulties. 6) Do not provide breastfed newborns any food or drink or fluids other than breastmilk unless medically indicated. 7) Enable mothers and their infants to remain together and to practice rooming-in 24 hours in a day. 8) Support mothers to recognize and respond to infants' cues for feeding. 9) Counsel mothers on the use and risks of feeding bottles, teats and pacifiers 10) Coordinate discharge so that parents and their infants have timely access to ongoing support.

Evidence supporting the effectiveness of Baby-Friendly Hospital Initiatives (BFHI)

Approximately 10% of the world's babies are born in Baby-Friendly facilities each year. Though the numbers may seem low, there is considerable evidence based on studies from various countries demonstrating the significant effects baby friendly designation has on increasing breastfeeding rates[9].

Two separate systematic reviews conducted by authors in both the US and UK, examining the effectiveness of the BFHI on breastfeeding outcomes globally, concluded that adherence to the entire package (the *Ten Steps*) resulted in significant increases in short, middle and long term breastfeeding outcomes across geographies[9,11]. These studies also demonstrated a dose-dependent relationship between the number of components of the BFHI a mother was exposed to and her likelihood of exclusively breastfeeding[11,13].

These encouraging results are the reason the WHO, UNICEF in collaboration with most countries and organizations continue to support health facilities to strive to attain baby friendly designation.

This manual seeks to highlight ways in which three (3) of these ten (10) steps can be adapted to bridge the gap and address some identified unmet needs of mothers in low resource setting like Ghana.

The three steps we will focus on include;

- Step 4: Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.
- Step 5: Support mothers to initiate and maintain breastfeeding and manage common difficulties.
- Step 10: Coordinate discharge so that parents and their infants have timely access to ongoing support.

Step 4: Skin-to-skin (StS) and Early initiation of Breastfeeding

Early StS contact is the practice of putting the dried naked baby directly prone on the mother's chest, in between both breasts without interrupted layers/clothing, then often

covering the infant with a warm blanket[14–16]. Fathers or supporting partners can also do StS in the event that mother is unable to safely hold her baby at the time of delivery or take turns with mother any time after delivery. Ideally, health workers supporting the labor and delivery assist the mother to hold her baby StS and assist to latch the baby on immediately after delivery. In the "sensitive" hour post-delivery, healthy full-term infants have the ability to locate and latch on to the mother'' nipple by smell and are sensitive to odor cues[14].

Babies that are held StS are known to initiate breastfeeding early and have better chances of being exclusively breastfed at the time of hospital discharge and at three (3) and six (6) months post discharge[14–17]. Other benefits, as determined from a Cochrane review include, higher stability of the cardiorespiratory system (SCRIP) scores, better temperature control and higher blood glucose levels were observed in infants placed immediately StS post-delivery as compared to those who did not receive this intervention[16].

A recent study conducted by the WHO used pooled data from 100 000 infants in Ghana, India and Tanzania, and evaluated the impact early initiation of breastfeeding had on the rates of exclusive breastfeeding and neonatal mortality[18]. It was determined from the study that, compared to infants who initiated breastfeeding within one hour, those who initiated breastfeeding within 2-23 and 24 – 96 hours were more likely to die within the first 28 days of life, (ad RR 1.41 95% CI 1.24-1.62 and ad RR 1.79 CI 1.39-2.30) respectively[18]. The same study also revealed that initiation of breastfeeding after the first hour of life was associated with decreased risks of exclusive breastfeeding at one (1) and three (3) months of life[18].

Though this has long been a recommended practice by the WHO, globally, only 45% of babies are held StS immediately or within an hour after delivery[15,18]. Some barriers to immediate StS and early initiation of breastfeeding include tiredness of mother after labor, cesarean deliveries, separation of infants from their mothers for various medical reasons and in some areas, the traditional practice of discarding colostrum and offering other traditional foods and fluids in its place[10,18].

Step 5: Supporting Mothers to Initiate and Maintain Breastfeeding and Manage Common Difficulties

Worldwide, breastfeeding initiation rates remain high, however, pain and difficulties associated with latching a newborn, perception of inadequate milk supply, low milk supply, breast engorgement and issues with keeping up with breastfeeding once mothers return to work remain the key barriers most mothers encounter in their breastfeeding journey and thereby top reasons for cessation of breastfeeding particularly in settings where lactation support is not readily available[2,19–21].

It is therefore imperative that, in addition to adopting physiologic approaches such as StS, and activation of mammalian instincts in the first few hours to supporting breastfeeding, mothers continue to receive additional support related to proper positioning and latching of the newborn to ensure that adequate amounts of mothers' breast tissue is supported into the infants' oral cavity for pain free and effective breastfeeding[22].

Trained lactation consultants or nurses receiving breastfeeding training are taught to realize that each mother baby dyad has unique anatomical features such as breast shape and size, nipple shape, size, direction and pliability as well as infants palate contour, tongue length, oral cavity size and chin recession; all play a role in the efficiency of milk transfer[22,23]. Skilled providers then adopt appropriate counselling and education techniques, employing teaching aids such as hands on practice and demonstration to primarily build maternal confidence in breastfeeding and help mothers overcome hurdles they may encounter[22,23]. Nipple shields, nipple creams and oils, breast shells, breastfeeding pillows and when necessary hand expression or breast pumps are some tools that can be used to support mothers through various issues regarding positioning, nipple pain and achieving a deeper latch[21,24–26].

Step 10: Community Support

Of all the *Ten Steps*, it has been determined that the long-term sustainability of breastfeeding is directly associated with adequate identification and establishment of key partners in the community to provide continuous breastfeeding support to mothers post discharge[4,13,15].

The Ringing Up after Breastfeeding early (RUBY) study, a randomized control study that was conducted in Australia, demonstrated that phone calls to first time mothers by their peers (fellow mothers) who had breastfed for at least six months significantly improved the rates of exclusive breastfeeding among the first time mothers randomized to receive the peer support as compared to those who did not receive the intervention[27].

Similarly, a qualitative study that engaged African American mothers through an online focus group reported that for those included in the study, a positive imagery of other breastfeeding African American mothers as well as ongoing support through shared experiences played an essential role in building their confidence to breastfeed in public and for longer durations as well[28].

The Baby-Friendly Hospitals Initiative in Ghana

The BFHI was commissioned by UNICEF in Ghana and officially adopted by the country in 1993[29,30]. This was shortly followed by the establishment of the National Breastfeeding Authority (NBA) that worked in collaboration with other partners such as the Ministry of Health and the Ghana National Commission on Children to coordinate the designation of facilities and training of personnel to be BFHI trainers and assessors[29]. The team supervised the designation process through an initial self-appraisal conducted by the facilities, followed by pre-assessment by the regional monitoring team and finally the external assessment[29].

The first Baby-Friendly facility was designated in 1995[30]. By the year 2005 through to 2015, 12% and 35% respectively of the 1,527 maternity facilities across the country had been designated as Baby-Friendly[29,30]. Unfortunately, the lack of a systematic reassessment process was a major weakness in the BFHI implementation strategy[29,30]. Reassessment exercises conducted in the various regions in 2015 showed that some facilities maintained their standards while others showed a drop in performance[29].

Currently, there is a wide regional variation in designated facilities with majority of the Baby-Friendly facilities (74%) located in the Upper East Region and the capital city Greater

Accra recording the lowest percentage of designated facilities (17%)[29]. There is a dearth of up to date information regarding actively ongoing designations or re-assessments across the country, however, a re-assessment of select previously designated Baby-Friendly facilities in Accra using the revised WHO/UNICEF external reassessment tool conducted by Aryeetey et al and Agbozo et al demonstrated a low adherence rates of 42% and 52% to the *Ten Steps* of the BFHI[30,31].

PROBLEM STATEMENT

According to the 2014 Demographic and Health Survey in Ghana, the percentage of babies who are ever breastfed is about 98-99%[32]. However, a smaller fraction, ranging from 35-60% of these babies are put to breast within the first hour of birth[32]. These figures were independent of place of delivery (facility delivery or home delivery) and remained consistent in both rural and urban regions[32]. It is, therefore, not surprising that the exclusive breastfeeding rates in Ghana drop from about 78% in the first month of life to 38% by the infant's 4th to 5th month of life[32].

Just as is the case in many developed and developing countries, many factors at various levels of the socio-ecological framework contribute to low exclusive breastfeeding rates in Ghana[2,4,19,33]. Individual and family level factors such as mothers educational level, confidence in her body's ability to provide enough milk for her baby, maternal time off work, and support from family members (particularly grandmothers) directly impact a mothers' decision to exclusively breastfeed, offer pre-lacteal feeds such as local herbs and gripe water and the timing of introduction of water and complementary feeds[4,10,20].

At the facility level, factors such as delivery practices/protocols including the set up and support given to mothers during delivery, intrapartum drug use for augmentation and pain relief, and the skills of the delivery assistant all impact breastfeeding[4]. In the antenatal period, mothers receive education about the benefits of breastfeeding for both mother and baby, together with other relevant topics such as preparation for labor and identifying danger signs. All these are carried out in line with the Ghana Health Service guidelines for routine antenatal education.

A majority of deliveries in Ghana are supervised by nurses and midwives, with access to an obstetrician in the few higher level facilities across the country[34,35]. The health facilities are short staffed, demanding that these nurses and midwives oversee several deliveries at the same time. Their work overload negatively impacts the time given to each mother particularly after delivery to support lactation.

Concerning the set-up of the labor and delivery rooms, contrary to the private rooms seen in most developed countries, the labor rooms are usually one big room with curtains that can be drawn to partition the beds during patient examinations. Otherwise most women in labor are seen minimally clothed lying or walking around the wards[36]. During the second stage of labor, the women are then transferred to a separate room with one or two beds with stirrups where the actual delivery is conducted. It is, however, not uncommon to see women deliver their babies in the "first stage" room. Babies are immediately sent to separate resuscitation room to be cleaned, weighed, measured and resuscitated when necessary. The above set up leaves nearly no room for husbands or support partners to be present during the delivery process without infringing upon the privacy of other mothers[36]. Also, taking the babies away immediately to be cleaned and weighed offers little room for initiating StS contact in that first hour post-delivery. Additionally, pharmacological methods of pain relief used country wide during labor and particularly after caesarian sections include opioids, non-opioids, and in few specialized centers epidural anesthesia is available[35]. Pethidine is the most commonly used opioid anesthesia in Ghana, particularly because it is cheap, widely distributed and easy to use[35,36] However, it has been documented in several studies to have negative impacts including sedation, nausea and vomiting on both mother and newborn [35]. It is also known to negatively impact breastfeeding by causing maternal sedation and subsequent inability to care for her baby (hold baby StS or latch baby) in first few hours of life[37–39]. It was also shown to increase the risk of delayed lactogenesis II when compared to women who did not receive the medication during labor[37–39].

Due to the high patient turn-over, particularly after vaginal delivery, stable mothers are typically discharged within the first twelve (12) hours after delivery. This protocol significantly limits the opportunity to receive lactation support in the hospital. Mothers are

encouraged to return for the post-natal visit on day three (3) and seven (7) of the infant's life. At this point, midwives supported mainly by community health nurses are responsible for examining mother and baby and identifying complications such as poor wound healing in the mother or jaundice in the baby.

Finally, with the scarcity of available community breastfeeding support groups, mothers are usually left on their own with minimal assistance to overcome the initial struggles of breastfeeding. A study carried out in Ghana, comparing mothers who had access to lactation consultants particularly after delivery through 9 post-partum home visits with those who did not showed that, 90% of mothers in the intervention group in contrast to 47.7% of mothers in the control group exclusively breastfed for 6 months[40].

MAIN OBJECTIVES OF THE TRAINING MANUAL

The main objectives of this manual are to build the competency of nurses, midwives and community health workers in:

- Promoting delivery practices such as StS contact that encourage early initiation of breastfeeding
- Supporting mothers and their families to establish and maintain lactation in a culturally sensitive manner
- Serving as liaisons to link breastfeeding mothers to support groups/persons within their communities

TARGET AUDIENCE

Professional nurses, midwives, community health nurses as well as community health workers, were the main target audience for this manual.

A professional nurse or midwife in Ghana, is one who has successfully completed nursing or midwifery training in an accredited college or university and is registered with the Nursing and Midwifery Council of Ghana[41]. The scope of practice, as set out by the Nursing and Midwifery Council of Ghana permits them to provide antenatal, intrapartum, postpartum, reproductive health and infant care[34,35,41].

Community health nurses (CHN), are a category of nurses introduced in Ghana to deliver healthcare services mostly in deprived areas of the country[42]. They receive two years of training in accredited institutions, and typically work under the supervision of public health nurses (professional nurses with additional year of public health training)[42]. CHNs are primarily responsible for home visits, running of child welfare clinics (for immunizations and growth monitoring) and assisting nurses and midwives in antenatal and postnatal clinics[42,43].

Community health workers on the other hand, receive some standardized training outside the formal nursing or medical curriculum[44]. They deliver a range of basic health educational and promotional services[44]. With regards to maternal and infant care, they complement the services of community health nurses particularly in hard to reach areas of the country[43,44].

TRAINING COMPONENT

The content of this section of the manual is adapted from a variety of publicly available resources from various organizations such as the UNICEF, Global Health Media, Carolina Global Breastfeeding Institute and other credible online sources.

Step 4 – Breastfeed within the first one hour

Considering the layout of our labor and delivery wards, the following are recommended to facilitate the initiation of breastfeeding within the first hour.

- In the second stage rooms - where ideally deliveries are expected to take place, we suggest moving the resuscitation tray and items for weighing, measuring and giving the initial doses of Vitamin K to baby from a separate neonatal resuscitation room, to the second stage delivery room[45].
- Nurses are encouraged to permit at least one family member in this room to act as a support person and possibly to help to support baby on mother's chest StS immediately after delivery[46]. (assuming the Apgar scores are normal)
- All initial procedures such as cleaning baby and giving vitamin K can easily be done while baby is still StS to mother.
- Baby weighing can be delayed for an hour or longer so that the initial StS and latching is uninterrupted[16,45].

- In cases where maternal vaginal tears need to be repaired, nurses are trained to judiciously use local anesthetic drugs to infiltrate the area and offer appropriate pain relief medications[46]. This allows mother to lie calmly throughout the procedure, still admiring, appreciating and latching her newborn and offers the nurse additional benefit of properly examining the area and repairing the tear with minimal interruption.
- In the event of an obstetrical emergency, such as post-partum hemorrhage, or any other conditions affecting mothers ability to safely hold her newborn, fathers or supporting family members can take over StS[1].

Step 5 - Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.

IDENITFYING INFANT FEEDING CUES

Newborns feed frequently and parents are advised to feed on demand during the day and night in the first few days of life, about 8-12 times per day[47–49].

Hunger Cues include[47];

- Bobbing the head around the breast trying to locate the nipple
- Increased alertness
- Rapid eye movements
- Sucking fingers and tongue
- Rooting around
- Wiggling, Fussing and Crying – late sign of hunger

A well satiated baby may[47],

- Turn away from the nipple
- Close lips tightly
- Slow sucking pace or stop completely
- Fall asleep

BREASTFEEDING POSITIONS

Equipping mothers with the knowledge of various breastfeeding positions and encouraging them to try the various positions until they decide on what works best for her and her newborn is important[45,50].

However, within the facility, depending on the nature and the availability or not of safety rails, nurses should use their discretion as some of these positions such as the football hold may be associated with infant fall risk in the absence of adequate bed support.

The four main breastfeeding positions include[45,48],

- Cradle hold
- Cross Cradle Hold
- Football hold
- Side-lying position
- Laid-back position

Image 1. Breastfeeding Positions

Image source https://www.unicef.org/nutrition/files/Nigeria_c-iycf_counselling_cards.pdf

KEYS TO MAINTAINING A CORRECT POSITION AND LATCH

Mothers should be encouraged to sit or lie in a comfortable position where she is relaxed, supporting the baby with a pillow, cushion or folded blankets if necessary. Maintaining a correct position is essential to ensure that baby latches well to prevent nipple pain and facilitate effective milk transfer.

The following short phrases are useful to remember the steps to ensuring a good breastfeeding position and obtaining a deep latch[47–49].

- Hold your baby tummy to tummy so baby faces the breast
- Support babies' back and head so that they are in a straight line
- Bring baby to breast and not breast to baby

- Cup and support the breast with one the other hand

STEPS TO OBTAIN A GOOD LATCH[45,47]

Once mother has the position well figured, holding the baby well so he/she is facing the breast and approaching it from underneath the nipple, she is now encouraged to,

- Touch the baby's nose with the nipple
- Wait for a wide open mouth and
- Quickly moving the baby onto the breast
- Ensuring in the process that baby has both areola tissue and nipple in the mouth
- When successful, baby will be seen to be suckling and swallowing
- Mother feels tugging and not pinching of her nipple

Image 2; Good attachment

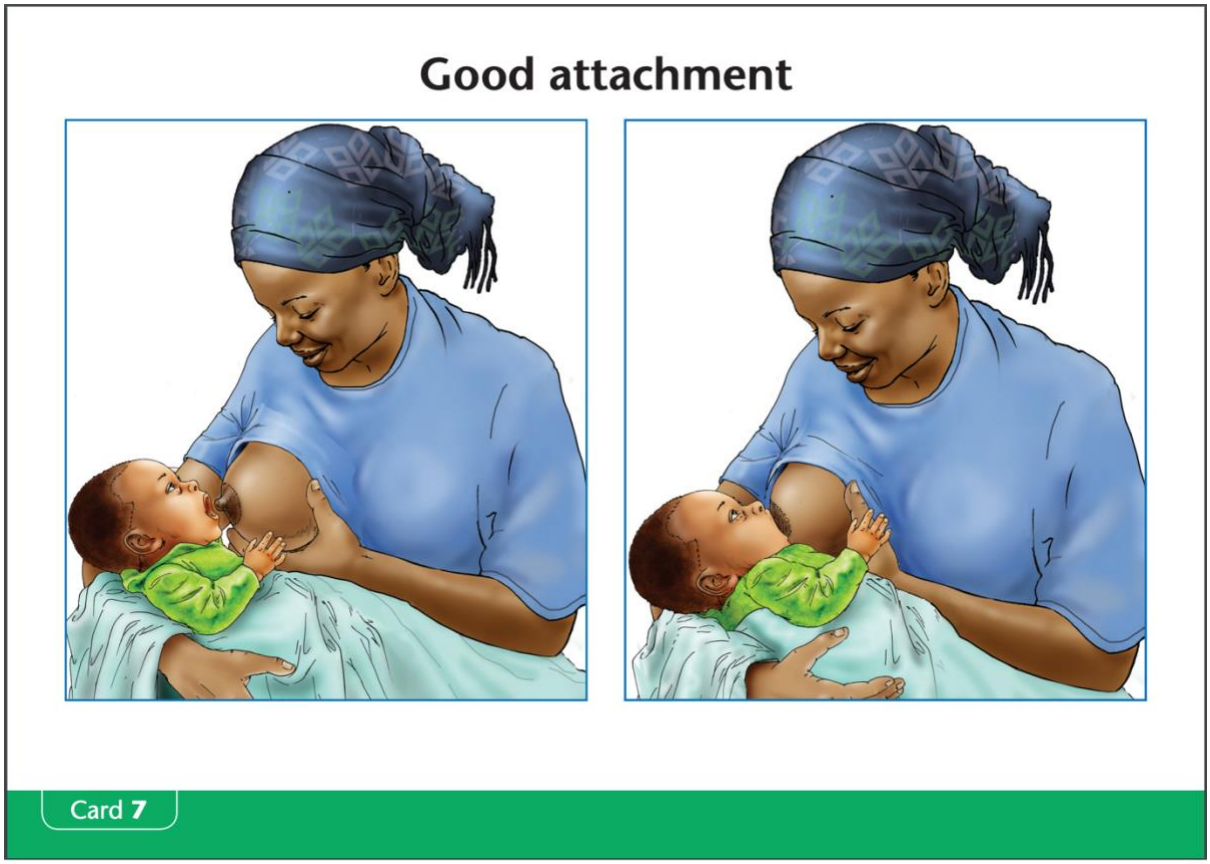

Image source: https://www.unicef.org/nutrition/files/Nigeria_c-iycf_counselling_cards.pdf

HAND EXPRESSION

Hand expression remains a powerful and effective tool of milk removal to equip all mothers with. It remains particularly useful in low- and middle- income settings where most mothers have limited access to personal hand-held or electric pumps. Mothers can be taught to hand express within the first few hours after delivery. Early hand expression helps with later milk production.

Steps to Hand expression[48,51]

- Wash your hands
- Have a clean container with a lid in which you will collect and store the expressed milk
- Relax and get comfortable, lean slightly forward if necessary to help milk flow.
- Hold your breast with your fingers and thumbs cupped around your breast in a C shape, near but not touching the areola.
- Apply steady pressure, PRESS your fingers and thumbs towards your chest
- COMPRESS your breast between your fingers and thumb, moving them slightly towards your nipple.
- RELEASE without moving your hand from your breast.
- Go back and forth, massaging the breast tissue intermittently.
- Switch sides often
- Remember it takes practice!

Instructors should teach participants the above steps of hand expression. In the event that the instructor has access to a computer and a projector screen, the hand expression video found on the Global Health media page, https://globalhealthmedia.org/videos/ can be played for participants.

Image 3 Hand Expression

Image source: https://www.unicef.org/nutrition/files/Nigeria_c-iycf_counselling_cards.pdf

KEYS TO MAINTAINING A GOOD MILK SUPPLY[47–49,51]

In order to maintain a good milk supply, mothers must remember that regular effective breast stimulation and milk withdrawal is key.

Breast feeding mothers must therefore,

- Initiate breastfeeding and hand expression within the first the hour post delivery
- Feed their babies on demand, at least 8-12 times each day
- Hand express or pump regularly when baby is unable to effectively transfer milk or mother is separated from baby
- Make sure to adequately empty both breasts at each feeding in the first few days and as the mature milk comes in, adequately empty one breasts before moving to the next.
- Maintain a balanced diet
- Remain hydrated with adequate fluid intake

USE OF GALACTAGOGUES

Traditionally, breastfeeding mothers are encouraged to eat a balanced diet with little documented evidence of a preference of certain foods over others. However, per the literature, certain foods and grains have been demonstrated to increase mother's milk supply.

It is important to reinforce that these galactagogues do not supersede the physiological effects breast stimulation and milk withdrawal by baby have on the mothers' body.

These include,

- Whole grains particularly, oatmeal[52,53]
- Moringa[53]
- Fenugreek[52,53] (use of this galactagogue needs to be discussed with mothers physician in order to adequately weigh the risks against the benefits. Some documented risks include hypoglycemia, diarrhea and hypotension)[54].

IDENTIFYING COMMON PROBLEMS

NIPPLE PAIN[45,55]

Symptoms	• Nipple soreness • Cracks or blisters on the nipple • Redness of nipple • Occasional bleeding nipples
Prevention	• Correct positioning and latch • Avoid harsh soaps or creams on the nipple • Breast assessment prenatally- identifying anatomical issues that might lead to challenges
Counselling	• Assess both mother and baby to identify any underlying causes such as inverted nipples, or tongue

	and/or lip ties in baby, poor positioning or latch • Ensure baby latches on correctly at each feeding. Remember to break a shallow latch and re-latch baby if necessary • Apply drops of breastmilk/ olive oil or Vaseline to the sore nipple • Do not stop breastfeeding

BREAST ENGORGEMENT AND MASTITIS[45,50,56]

Symptoms	• Swelling and tenderness of the breast • Flattening of the nipple • Low grade fever, redness and warmth of the breasts with mastitis
Prevention	• Early initiation of breastfeeding • Breastfeeding on demand at least 8-12 times a day • Hand express or pump breast milk if separated from baby from prolonged period
Counselling	• Breastfeed frequently and make sure to drain each breast well at each feeding • Massage breasts • Apply cold compress to breasts to reduce the swelling

	• Refer to a doctor/midwife when mastitis is suspected for appropriate antibiotic therapy

Identifying ways to deliver above content

Nurses, midwives and community health nurses who are in charge of the post-natal clinics could incorporate a breastfeeding station into their clinics, supported by a health care worker trained to support lactation.

At the post-natal clinic on day 3 and 7 of the infant's life, as well as the two week and 6 weeks follow up visit, breastfeeding education with appropriate flip cards and pictures could be delivered. Mothers could then be encouraged to stop by the breastfeeding station to access individualized assistance with latching, positioning or addressing complications at an early period.

The creation of an outpatient breastfeeding station in addition to the group education seeks to counteract the missed opportunities at offering adequate breast-feeding help at delivery during to the early discharges. It also offers opportunity for follow up for those who might have benefitted from some help during the hospital stay (cesarean section mothers) and reassurance especially for first time mothers who may be unsure or have low confidence in their abilities to provide enough breast milk for their newborns.

Step 10 Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

This component of the training seeks to leverage on existing structures such as home visits and child welfare clinics to identify community-based avenues for supporting mothers to breastfeed.

Health care providers can also adopt the concept of "persons of hope" used in HIV care to encourage drug adherence and improve care seeking behaviors among persons living with

HIV[57]. In this model, a previously diagnosed person serves a liaison between the health worker and the newly diagnosed patient. they work primarily by sharing their experiences and coping strategies with newly diagnosed individuals.

Translating this concept to breastfeeding, health care workers with demonstrated interest in breastfeeding education and support can help identify mothers in the community who have successfully exclusively breastfed or are currently breastfeeding and are willing to share their experiences and ways they overcame challenges with new mothers[58,59].

These identified members of the community can donate some of their time and be present at child welfare clinics usually held one day in the week and offer one on one advice and encouragement to other mothers. Peer counsellors will reiterate and reinforce the educational messages being delivered by the health care professionals.

Through this model, mothers with unique challenges or those experiencing complications such as mastitis can be easily identified and referred to the nearest facility with higher skilled professionals with expertise in medical lactation therapy to obtain appropriate help or definitive treatment.

With advancing technology and increased internet access, closed social media support groups can be created by dedicated nurses or community members and serve as a mother to mother support group to provide education, share experiences and resources, answer commonly asked questions and even plan monthly events to meet and encourage one another.

Finally, media outlets can be involved such that well-crafted, community centered radio and television educational messages or programs (with call in segments) in the various Ghanaian languages can be broadcasted to serve as another avenue for wide community education. Messages to be broadcasted can be developed in collaboration with key stakeholders in the community through focus groups and key informant interviews. This is important to increase acceptance of the messages and ensure community participation. These programs

can also be used to highlight available resources in the community, online support groups and ways to receive continuous breastfeeding support.

ASSESSMENT COMPONENT

Practice time

Instructors are encouraged to actively engage participants during training sessions by improvising live babies using locally crafted dolls[60]. Instructors may closely observe how participants practice various breastfeeding positions, while properly supporting the infant and the breasts.

Shadowing (if possible)

Particularly with respect to step 4 of the *Ten Steps*, instructors who have the chance may offer to shadow participants in their local clinics and maternity wards to reinforce the practicality of implementing immediate StS and early initiation of breastfeeding after delivery.

EVALUATION AND FEEDBACK

In order to evaluate the effectiveness of the training program, a non-experimental one group pre-and post-test questionnaire (Appendix 1) will be completed by all trainees to assess changes in participants knowledge and confidence in supporting breastfeeding mothers. Questionnaire will be designed such that the key objectives of this training are easily measured.

Additionally, in order to ensure continuity and sustainability of the transfer of knowledge and skills after the training sessions, trainees can be paired with or assigned to previously identified mentors in the field that work in close proximity. These mentors will be responsible for supervising and documenting completed hours of supervised and/or independent provision of breastfeeding related counselling or support services. Completion of these competency logs can be incorporated into the requirements for yearly renewal of licenses for community health workers, nurses and midwives.

Results of the pre and post-tests, as well as feedback from mentors in the field can assist the trainers in identifying gaps in the delivery of the training and use it as a learning opportunity to improve the delivery of future trainings.

Finally, trainees will be given the opportunity to provide feedback to the trainers on their perception about their quality of the training, its usefulness and feasibility and suggestions on ways to improve the content and delivery of the training.

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APPENDIX I

PRE AND POST TRAINING SHORT TEST

Please state whether the following statements are True or False

Statement	True	False
1. Breastfeeding is beneficial only to the baby, not the mother. 2. Every member of the community has a role to play in supporting mothers to breastfeed. 3. Fathers have no role in the delivery room 4. Mothers are too tired after delivery to hold their baby StS 5. Colostrum, the first milk, provides immunity for the newborn 6. Newborn babies are thirsty and need to be given water, even when mother is breastfeeding exclusively 7. Crying is an early sign of hunger in babies 8. Breast engorgement and mastitis are some complications of breastfeeding 9. Mother to mother support has no impact on mothers desire to breastfeed 10. Moringa and oatmeal alone can increase a mother's milk supply		

APPENDIX II

TRAINING EVALUATION FOR HEALTHCARE PROFESSIONALS

Please answer the following questions to help us improve future training opportunities

1. Please tick ONE answer that best describes your primary position
   - ☐ Nurse
   - ☐ Midwife
   - ☐ Community health nurse
   - ☐ Community health worker

2. What are three **most important** things you learnt during this training

-
-
-

3. What are the three **greatest strengths** of this training?

-
-
-

4. Please rate the training in terms of its impact and usefulness in the following areas, using the scale below. (**1-Not useful at all, 5- Very Useful**)

Area	**1**	**2**	**3**	**4**	**5**
Useful in your daily work	1	2	3	4	5
Increasing your **willingness** to train and mentor others	1	2	3	4	5
Increasing your **ability** to train and mentor others	1	2	3	4	5

5. Please provide **one** example of how your practice will change as a result of this training (if any)

6. What additional assistance, if any, will you need to be able to implement what you've learned at this training? E.g. Supervisory support, videos, newsletters, classroom-based training, etc.…) Please be as specific as possible.

7. If you were given the task of revising, adjusting or redesigning this training, what would you change?

8. Other comments: